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<110> Zavada, Jan

      Pastorekova, Silvia

      Pastorek, Jaromir

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tct ggg gaa gat gac cca ctg ggc gag gag gat ctg ccc agt gaa gag     96
Ser Gly Glu Asp Asp Pro Leu Gly Glu Glu Asp Leu Pro Ser Glu Glu
                20                  25                  30

gat tca ccc aga gag gag gat cca ccc gga gag gag gat cta cct gga    144
Asp Ser Pro Arg Glu Glu Asp Pro Pro Gly Glu Glu Asp Leu Pro Gly
            35                  40                  45

gag gag gat cta cct gga gag gag gat cta cct gaa gtt aag cct aaa    192
Glu Glu Asp Leu Pro Gly Glu Glu Asp Leu Pro Glu Val Lys Pro Lys
        50                  55                  60

tca gaa gaa gag ggc tcc ctg aag tta gag gat cta cct act gtt gag    240
Ser Glu Glu Glu Gly Ser Leu Lys Leu Glu Asp Leu Pro Thr Val Glu
 65                  70                  75                  80

gct cct gga gat cct caa gaa ccc cag aat aat gcc cac agg gac aaa    288
Ala Pro Gly Asp Pro Gln Glu Pro Gln Asn Asn Ala His Arg Asp Lys
                85                  90                  95

gaa ggg gat gac cag agt cat tgg cgc tat gga ggc gac ccg ccc tgg    336
Glu Gly Asp Asp Gln Ser His Trp Arg Tyr Gly Gly Asp Pro Pro Trp
            100                 105                 110

ccc cgg gtg tcc cca gcc tgc gcg ggc cgc ttc cag tcc ccg gtg gat    384
Pro Arg Val Ser Pro Ala Cys Ala Gly Arg Phe Gln Ser Pro Val Asp
            115                 120                 125

atc cgc ccc cag ctc gcc gcc ttc tgc ccg gcc ctg cgc ccc ctg gaa    432
Ile Arg Pro Gln Leu Ala Ala Phe Cys Pro Ala Leu Arg Pro Leu Glu
        130                 135                 140

ctc ctg ggc ttc cag ctc ccg ccg ctc cca gaa ctg cgc ctg cgc aac    480
Leu Leu Gly Phe Gln Leu Pro Pro Leu Pro Glu Leu Arg Leu Arg Asn
145                 150                 155                 160

aat ggc cac agt gtg caa ctg acc ctg cct cct ggg cta gag atg gct    528
Asn Gly His Ser Val Gln Leu Thr Leu Pro Pro Gly Leu Glu Met Ala
                165                 170                 175

ctg ggt ccc ggg cgg gag tac cgg gct ctg cag ctg cat ctg cac tgg    576
Leu Gly Pro Gly Arg Glu Tyr Arg Ala Leu Gln Leu His Leu His Trp
            180                 185                 190

ggg gct gca ggt cgt ccg ggc tcg gag cac act gtg gaa ggc cac cgt    624
Gly Ala Ala Gly Arg Pro Gly Ser Glu His Thr Val Glu Gly His Arg
            195                 200                 205

ttc cct gcc gag atc cac gtg gtt cac ctc agc acc gcc ttt gcc aga    672
Phe Pro Ala Glu Ile His Val Val His Leu Ser Thr Ala Phe Ala Arg
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Val Asp Glu Ala Leu Gly Arg Pro Gly Gly Leu Ala Val Leu Ala Ala
225                 230                 235                 240

ttt ctg gag gag ggc ccg gaa gaa aac agt gcc tat gag cag ttg ctg    768
Phe Leu Glu Glu Gly Pro Glu Glu Asn Ser Ala Tyr Glu Gln Leu Leu
                    245                 250                 255

tct cgc ttg gaa gaa atc gct gag gaa ggc tca gag act cag gtc cca    816
Ser Arg Leu Glu Glu Ile Ala Glu Glu Gly Ser Glu Thr Gln Val Pro
                260                 265                 270

gga ctg gac ata tct gca ctc ctg ccc tct gac ttc agc cgc tac ttc    864
Gly Leu Asp Ile Ser Ala Leu Leu Pro Ser Asp Phe Ser Arg Tyr Phe
            275                 280                 285

caa tat gag ggg tct ctg act aca ccg ccc tgt gcc cag ggt gtc atc    912
Gln Tyr Glu Gly Ser Leu Thr Thr Pro Pro Cys Ala Gln Gly Val Ile
        290                 295                 300

tgg act gtg ttt aac cag aca gtg atg ctg agt gct aag cag ctc cac    960
Trp Thr Val Phe Asn Gln Thr Val Met Leu Ser Ala Lys Gln Leu His
305                 310                 315                 320

acc ctc tct gac acc ctg tgg gga cct ggt gac tct cgg cta cag ctg   1008
Thr Leu Ser Asp Thr Leu Trp Gly Pro Gly Asp Ser Arg Leu Gln Leu
                325                 330                 335

aac ttc cga gcg acg cag cct ttg aat ggg cga gtg att gag gcc tcc   1056
Asn Phe Arg Ala Thr Gln Pro Leu Asn Gly Arg Val Ile Glu Ala Ser
                340                 345                 350

ttc cct gct gga gtg gac agc agt cct cgg gct gct gag cca gtc cag   1104
Phe Pro Ala Gly Val Asp Ser Ser Pro Arg Ala Ala Glu Pro Val Gln
            355                 360                 365

ctg aat tcc tgc ctg gct gct ggt gac atc cta gcc ctg gtt ttt ggc   1152
Leu Asn Ser Cys Leu Ala Ala Gly Asp Ile Leu Ala Leu Val Phe Gly
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ctc ctt ttt gct gtc acc agc gtc gcg ttc ctt gtg cag atg aga agg   1200
Leu Leu Phe Ala Val Thr Ser Val Ala Phe Leu Val Gln Met Arg Arg
385                 390                 395                 400

cag cac aga agg gga acc aaa ggg ggt gtg agc tac cgc cca gca gag   1248
Gln His Arg Arg Gly Thr Lys Gly Gly Val Ser Tyr Arg Pro Ala Glu
                405                 410                 415

gta gcc gag act gga gcc tagaggctgg atcttggaga atgtgagaag          1296
Val Ala Glu Thr Gly Ala
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ccagccagag gcatctgagg gggagccggt aactgtcctg tcctgctcat tatgccactt 1356

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        35   40   45

Glu Glu Asp Leu Pro Gly Glu Glu Asp Leu Pro Glu Val Lys Pro Lys
    50   55   60

Ser Glu Glu Glu Gly Ser Leu Lys Leu Glu Asp Leu Pro Thr Val Glu
65   70   75   80

Ala Pro Gly Asp Pro Gln Glu Pro Gln Asn Asn Ala His Arg Asp Lys
            85   90   95

Glu Gly Asp Asp Gln Ser His Trp Arg Tyr Gly Gly Asp Pro Pro Trp
            100   105   110

Pro Arg Val Ser Pro Ala Cys Ala Gly Arg Phe Gln Ser Pro Val Asp
        115   120   125

Ile Arg Pro Gln Leu Ala Ala Phe Cys Pro Ala Leu Arg Pro Leu Glu
    130   135   140

Leu Leu Gly Phe Gln Leu Pro Pro Leu Pro Glu Leu Arg Leu Arg Asn
145   150   155   160

Asn Gly His Ser Val Gln Leu Thr Leu Pro Pro Gly Leu Glu Met Ala
                165   170   175

Leu Gly Pro Gly Arg Glu Tyr Arg Ala Leu Gln Leu His Leu His Trp
            180   185   190

Gly Ala Ala Gly Arg Pro Gly Ser Glu His Thr Val Glu Gly His Arg
        195   200   205

Phe Pro Ala Glu Ile His Val Val His Leu Ser Thr Ala Phe Ala Arg
    210   215   220

Val Asp Glu Ala Leu Gly Arg Pro Gly Gly Leu Ala Val Leu Ala Ala
225   230   235   240

Phe Leu Glu Glu Gly Pro Glu Glu Asn Ser Ala Tyr Glu Gln Leu Leu
            245   250   255

Ser Arg Leu Glu Glu Ile Ala Glu Glu Gly Ser Glu Thr Gln Val Pro
        260   265   270

Gly Leu Asp Ile Ser Ala Leu Leu Pro Ser Asp Phe Ser Arg Tyr Phe
        275   280   285

Gln Tyr Glu Gly Ser Leu Thr Thr Pro Pro Cys Ala Gln Gly Val Ile
    290   295   300

Trp Thr Val Phe Asn Gln Thr Val Met Leu Ser Ala Lys Gln Leu His
305   310   315   320

Thr Leu Ser Asp Thr Leu Trp Gly Pro Gly Asp Ser Arg Leu Gln Leu
            325   330   335

Asn Phe Arg Ala Thr Gln Pro Leu Asn Gly Arg Val Ile Glu Ala Ser
        340   345   350

4

Phe Pro Ala Gly Val Asp Ser Ser Pro Arg Ala Ala Glu Pro Val Gln
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Leu Asn Ser Cys Leu Ala Ala Gly Asp Ile Leu Ala Leu Val Phe Gly
    370   375   380

Leu Leu Phe Ala Val Thr Ser Val Ala Phe Leu Val Gln Met Arg Arg
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atc ccg gcc cct gct cca ggc ctc act gtg caa ctg ctg ctg tca ctg    99
Ile Pro Ala Pro Ala Pro Gly Leu Thr Val Gln Leu Leu Leu Ser Leu
            -20                 -15                 -10

ctg ctt ctg atg cct gtc cat ccc cag agg ttg ccc cgg atg cag gag    147
Leu Leu Leu Met Pro Val His Pro Gln Arg Leu Pro Arg Met Gln Glu
            -5              -1  1                 5

gat tcc ccc ttg gga gga ggc tct tct ggg gaa gat gac cca ctg ggc    195
Asp Ser Pro Leu Gly Gly Gly Ser Ser Gly Glu Asp Asp Pro Leu Gly
        10              15                  20

gag gag gat ctg ccc agt gaa gag gat tca ccc aga gag gag gat cca    243
Glu Glu Asp Leu Pro Ser Glu Glu Asp Ser Pro Arg Glu Glu Asp Pro
25                  30                  35                  40

ccc gga gag gag gat cta cct gga gag gag gat cta cct gga gag gag    291
Pro Gly Glu Glu Asp Leu Pro Gly Glu Glu Asp Leu Pro Gly Glu Glu
                45                  50                  55

gat cta cct gaa gtt aag cct aaa tca gaa gaa gag ggc tcc ctg aag    339
Asp Leu Pro Glu Val Lys Pro Lys Ser Glu Glu Glu Gly Ser Leu Lys
            60                  65                  70

tta gag gat cta cct act gtt gag gct cct gga gat cct caa gaa ccc    387
Leu Glu Asp Leu Pro Thr Val Glu Ala Pro Gly Asp Pro Gln Glu Pro
            75                  80                  85

cag aat aat gcc cac agg gac aaa gaa ggg gat gac cag agt cat tgg    435
Gln Asn Asn Ala His Arg Asp Lys Glu Gly Asp Asp Gln Ser His Trp
        90                  95                  100

cgc tat gga ggc gac ccg ccc tgg ccc cgg gtg tcc cca gcc tgc gcg    483
Arg Tyr Gly Gly Asp Pro Pro Trp Pro Arg Val Ser Pro Ala Cys Ala
105                 110                 115                 120

ggc cgc ttc cag tcc ccg gtg gat atc cgc ccc cag ctc gcc gcc ttc    531
Gly Arg Phe Gln Ser Pro Val Asp Ile Arg Pro Gln Leu Ala Ala Phe
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tgc ccg gcc ctg cgc ccc ctg gaa ctc ctg ggc ttc cag ctc ccg ccg    579
Cys Pro Ala Leu Arg Pro Leu Glu Leu Leu Gly Phe Gln Leu Pro Pro
            140                 145                 150

ctc cca gaa ctg cgc ctg cgc aac aat ggc cac agt gtg caa ctg acc    627
Leu Pro Glu Leu Arg Leu Arg Asn Asn Gly His Ser Val Gln Leu Thr
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6

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gct ctg cag ctg cat ctg cac tgg ggg gct gca ggt cgt ccg ggc tcg    723
Ala Leu Gln Leu His Leu His Trp Gly Ala Ala Gly Arg Pro Gly Ser
185             190             195             200

gag cac act gtg gaa ggc cac cgt ttc cct gcc gag atc cac gtg gtt    771
Glu His Thr Val Glu Gly His Arg Phe Pro Ala Glu Ile His Val Val
                205             210             215

cac ctc agc acc gcc ttt gcc aga gtt gac gag gcc ttg ggg cgc ccg    819
His Leu Ser Thr Ala Phe Ala Arg Val Asp Glu Ala Leu Gly Arg Pro
            220             225             230

gga ggc ctg gcc gtg ttg gcc gcc ttt ctg gag gag ggc ccg gaa gaa    867
Gly Gly Leu Ala Val Leu Ala Ala Phe Leu Glu Glu Gly Pro Glu Glu
            235             240             245

aac agt gcc tat gag cag ttg ctg tct cgc ttg gaa gaa atc gct gag    915
Asn Ser Ala Tyr Glu Gln Leu Leu Ser Arg Leu Glu Glu Ile Ala Glu
    250             255             260

gaa ggc tca gag act cag gtc cca gga ctg gac ata tct gca ctc ctg    963
Glu Gly Ser Glu Thr Gln Val Pro Gly Leu Asp Ile Ser Ala Leu Leu
265             270             275             280

ccc tct gac ttc agc cgc tac ttc caa tat gag ggg tct ctg act aca    1011
Pro Ser Asp Phe Ser Arg Tyr Phe Gln Tyr Glu Gly Ser Leu Thr Thr
                285             290             295

ccg ccc tgt gcc cag ggt gtc atc tgg act gtg ttt aac cag aca gtg    1059
Pro Pro Cys Ala Gln Gly Val Ile Trp Thr Val Phe Asn Gln Thr Val
            300             305             310

atg ctg agt gct aag cag ctc cac acc ctc tct gac acc ctg tgg gga    1107
Met Leu Ser Ala Lys Gln Leu His Thr Leu Ser Asp Thr Leu Trp Gly
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cct ggt gac tct cgg cta cag ctg aac ttc cga gcg acg cag cct ttg    1155
Pro Gly Asp Ser Arg Leu Gln Leu Asn Phe Arg Ala Thr Gln Pro Leu
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aat ggg cga gtg att gag gcc tcc ttc cct gct gga gtg gac agc agt    1203
Asn Gly Arg Val Ile Glu Ala Ser Phe Pro Ala Gly Val Asp Ser Ser
345             350             355             360

cct cgg gct gct gag cca gtc cag ctg aat tcc tgc ctg gct gct ggt    1251
Pro Arg Ala Ala Glu Pro Val Gln Leu Asn Ser Cys Leu Ala Ala Gly
            365             370             375

gac atc cta gcc ctg gtt ttt ggc ctc ctt ttt gct gtc acc agc gtc    1299
Asp Ile Leu Ala Leu Val Phe Gly Leu Leu Phe Ala Val Thr Ser Val
            380             385             390

gcg ttc ctt gtg cag atg aga agg cag cac aga agg gga acc aaa ggg    1347
Ala Phe Leu Val Gln Met Arg Arg Gln His Arg Arg Gly Thr Lys Gly
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ggt gtg agc tac cgc cca gca gag gta gcc gag act gga gcc    1389
Gly Val Ser Tyr Arg Pro Ala Glu Val Ala Glu Thr Gly Ala
410             415             420
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Leu Gly Gly Gly Ser Ser Gly Glu Asp Asp Pro Leu Gly Glu Glu Asp
                15   20   25

Leu Pro Ser Glu Glu Asp Ser Pro Arg Glu Glu Asp Pro Pro Gly Glu
        30   35   40

Glu Asp Leu Pro Gly Glu Glu Asp Leu Pro Gly Glu Glu Asp Leu Pro
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Glu Val Lys Pro Lys Ser Glu Glu Glu Gly Ser Leu Lys Leu Glu Asp
    60   65   70   75

Leu Pro Thr Val Glu Ala Pro Gly Asp Pro Gln Glu Pro Gln Asn Asn
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Ala His Arg Asp Lys Glu Gly Asp Asp Gln Ser His Trp Arg Tyr Gly
                95   100   105

Gly Asp Pro Pro Trp Pro Arg Val Ser Pro Ala Cys Ala Gly Arg Phe
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Gln Ser Pro Val Asp Ile Arg Pro Gln Leu Ala Ala Phe Cys Pro Ala
    125   130   135

Leu Arg Pro Leu Glu Leu Leu Gly Phe Gln Leu Pro Pro Leu Pro Glu
140   145   150   155

8

Leu Arg Leu Arg Asn Asn Gly His Ser Val Gln Leu Thr Leu Pro Pro
            160   165   170

Gly Leu Glu Met Ala Leu Gly Pro Gly Arg Glu Tyr Arg Ala Leu Gln
            175   180   185

Leu His Leu His Trp Gly Ala Ala Gly Arg Pro Gly Ser Glu His Thr
            190   195   200

Val Glu Gly His Arg Phe Pro Ala Glu Ile His Val Val His Leu Ser
    205   210   215

Thr Ala Phe Ala Arg Val Asp Glu Ala Leu Gly Arg Pro Gly Gly Leu
220   225   230   235

Ala Val Leu Ala Ala Phe Leu Glu Glu Gly Pro Glu Glu Asn Ser Ala
            240   245   250

Tyr Glu Gln Leu Leu Ser Arg Leu Glu Glu Ile Ala Glu Glu Gly Ser
            255   260   265

Glu Thr Gln Val Pro Gly Leu Asp Ile Ser Ala Leu Leu Pro Ser Asp
            270   275   280

Phe Ser Arg Tyr Phe Gln Tyr Glu Gly Ser Leu Thr Thr Pro Pro Cys
    285   290   295

Ala Gln Gly Val Ile Trp Thr Val Phe Asn Gln Thr Val Met Leu Ser
300   305   310   315

Ala Lys Gln Leu His Thr Leu Ser Asp Thr Leu Trp Gly Pro Gly Asp
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Ser Arg Leu Gln Leu Asn Phe Arg Ala Thr Gln Pro Leu Asn Gly Arg
            335   340   345

Val Ile Glu Ala Ser Phe Pro Ala Gly Val Asp Ser Ser Pro Arg Ala
            350   355   360

Ala Glu Pro Val Gln Leu Asn Ser Cys Leu Ala Ala Gly Asp Ile Leu
            365   370   375

Ala Leu Val Phe Gly Leu Leu Phe Ala Val Thr Ser Val Ala Phe Leu
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14

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